

PREVALENCE OF GLAUCOMATOUS RISK FACTORS IN PATIENTS FROM A MANAGED-CARE SETTING: A PILOT EVALUATION

Fang EN¹, Law SK², Walt JG³, Chiang TH³

¹Southern California Permanente Medical Group, Los Angeles, CA, USA, ²Jules Stein Eye Institute UCLA, Los Angeles, CA, USA, ³Allergan Inc, Irvine, CA, USA

OBJECTIVES: To determine the prevalence of glaucomatous risk factors (RFs) in glaucoma patients in a managed-care practice. **METHODS:** Retrospective review of medical records of 1189 glaucoma patients. Diagnosis and documentation information of 15 RFs reported to be associated with glaucoma progression were collected. The 15 RFs included age >70, family history, African American origin, high intraocular pressure (IOP), increase cup/disc (C/D) ratio, poor visual field score, disc hemorrhage, pseudoexfoliation sign, low central corneal thickness (CCT), high myopia, cardiovascular disease, systemic hypertension, diabetes mellitus (DM), migraine headache, and vasospasm. The average risk score for the population was calculated using the predictive model based on 5 risk factors (age, IOP, CCT, C/D ratio, VF score, and DM) derived from Medeiros et al. (2005), where a higher score indicates greater risk. **RESULTS:** A total of 1182 of 1189 patients for which medical records were available had a clear diagnosis in the charts. Mean age (63.0 ± 11.9 years) and the average IOP (18.3 ± 4.7 mm Hg) was calculated. Average value of C/D ratio was 0.52 ± 0.18 , pattern standard deviation was 2.59 ± 1.99 dB, and CCT was 552 ± 34 microns. The glaucomatous RF with the highest incidence was systemic hypertension (39.0%), followed by age >70 (27.2%), DM (23.6%), African American origin (23.0%), and a family history of glaucoma (18.2%). An average risk score was 42 for this population. **CONCLUSION:** Three of the five most prevalent glaucomatous RFs from this population were not included in the predictive model. The prevalence of RFs and risk scores may be compared with a non-glaucoma patient population or a population of glaucoma patients without glaucomatous RFs to determine the relative risk difference. Existing models for calculating glaucoma risk scores do not consider several important risk factors, and these variables should be considered in future calculation models.

EAR/EYE—Cost Studies

THE ECONOMIC BURDEN OF GLAUCOMA-RELATED VISUAL IMPAIRMENT

Kymes SM¹, Zhou Z², Plotzke M¹, Fain J³

¹Washington University, Saint Louis, MO, USA, ²Pfizer Inc, Bridgewater, NJ, USA, ³Pfizer Inc, New York, NY, USA

OBJECTIVES: We measured increased non-vision cost for progression to visual loss due to glaucoma. **METHODS:** We analyzed a random 5% sample of Medicare beneficiaries (1999–2003). Presence the ICD-9 code, 365.xx, in a 1999 claim was considered evidence of glaucoma. Inclusion required survival from 1999–2003. Moderate visual loss was defined as severe impairment in the worst seeing-eye (ICD-9 > 369.60). Severe visual loss was defined as severe impairment in best seeing-eye (ICD-9 369.10 to 369.41). Blindness was defined as near total to profound impairment in both eyes (ICD-9 369.0 to 369.09). We identified those who reported depression, injury and living in long-term care settings. We report the mean total medical costs for each group and the increased risk of depression or injury, and living in an institutional setting associated with progression. **RESULTS:** In total, 57,664 beneficiaries were

PEY2

reported as having glaucoma. 54,596 did not experience severe impairment in either eye, while 3068 beneficiaries (5.3%) reported severe impairment in at least one eye during the five year period. Increased visual impairment was associated with higher overall medical costs in 2003. Those who were blind had the highest cost of those who did not progress (\$11,568). Those who progressed from glaucoma to blindness had the highest overall cost (\$16,109). Among those who progressed to vision loss, progression to blindness had the highest incremental cost (\$5510). Those who progressed to any vision loss were more likely to be diagnosed with depression or injury, or to be in long-term care or skilled nursing facility than those who did not, including those who had visual impairment at the beginning of the period. **CONCLUSION:** Among people with glaucoma, progression to loss of visual function in even a single eye leads to higher medical costs during progression. A substantial portion of this cost is associated with avoidable conditions and institutionalization.

PEY4

INCREMENTAL COSTS ASSOCIATED WITH ANTIBIOTICS PRESCRIBED FOR ACUTE OTITIS MEDIA

Seal B¹, Mucha L², Lenhart G³, Asche C⁴

¹Sanofi-Aventis, Bridgewater, NJ, USA, ²Thomson Health Care: Medstat, Cambridge, MA, USA, ³Thomson Medstat, Cambridge, MA, USA, ⁴University of Utah, Salt Lake City, UT, USA

OBJECTIVES: The purpose of this study was to estimate the total and incremental costs associated with antibiotic treatments for acute otitis media (AOM). **METHODS:** Persons over age 18 were identified in the MarketScan databases July–December 2004. We identified AOM episodes for patients with claims for ICD9 codes 381.0X, 381.4X, 382.0X and 382.9X. We then identified the most frequently antibiotics prescribed as initial treatment for an AOM episode. Logistic regression estimated a propensity score for each patient; which was the predicted probability of using telithromycin. Patients were then matched according to this probability. Exponential conditional means models (ECM) were specified, controlling significant variables after the propensity score matching (demographics and comorbidities). These models allowed the incremental costs to be estimated for treatment of a reference drug, telithromycin, relative to other antibiotics. **RESULTS:** The most common initial antibiotic treatments compared to telithromycin for AOM (n = 243 episodes) were amoxicillin, azithromycin, cefdinir, cefprozil and levofloxacin, moxifloxacin. The mean length of an AOM episode was 8.1 to 13.0 days. Mean total expenditures among the episodes was \$196, with a range of \$165 to \$244. Multivariate ECM models were fitted and showed significant incremental cost reductions per episode associated with telithromycin relative to: cefdinir (–\$64, p < 0.001), cefprozil (–\$65, p < 0.001) and clarithromycin (–\$47, p < 0.001). **CONCLUSION:** The results of this study show that the costs differed among episodes of AOM by the initiating antibiotic. Use of propensity score matching and ECM regression controlled for intra-episode differences, so the incremental costs differences may be attributed to other factors such as disease severity. Although different antibiotics may be in the same drug class, the choice of the initiating antibiotic for an AOM episode in this adult population clearly had financial implications.

PEY5

A COST-BENEFIT ANALYSIS OF THE SN60WF ASPHERIC INTRAOCULAR LENS

Waycaster C

Alcon Laboratories Inc, Fort Worth, TX, USA